

Portland Harbor Former Dispute Topics and Resolutions – Crosswalk Table with Pre-RD Group PDI Evaluation Report

Topic	Formerly disputed and dispute document?	Dispute and Resolution Dates	Dispute Summary	Resolution Summary	Pre-RD Group PDI Evaluation Report Excerpt	EPA Comments on PDI Evaluation Report	Topic in Remedial Design FAQ?
RALs	Yes, final FS dispute Document	LWG Dispute Issue 1d: 6/22/2016 Resolution: 12/27/2016	The LWG disagrees with EPA’s dioxin/furan, PAH, and DDx RALs for reasons discussed below. The LWG does not agree that dioxin/furan RALs are necessary to define SMAs or select an effective remedy for the Site. Per discussions at the 2014 FS technical meetings, the LWG disagrees that TPAH RALs should be used instead of cPAH RALs (expressed as BaPEq). Although the LWG agrees with the use of DDx RALs as a general concept instead of individual DDD, DDE, and DDT RALs in the 2012 draft FS, the LWG disagrees with the upper end of the RAL curve selected by EPA.	The 2016 FS only applies RALs where those concentrations are exceeded in sediment based on the RI data. As EPA has stated, RALs are applied in combination to develop SMAs that cover all COCs in sediment greater than PRGs. Based on existing data and the risk assessments, dioxins/furans pose the second greatest risk within the site to both human and ecological receptors. As such, the risks from this contaminant group must be addressed at the Site. Total PAHs were evaluated in the BERA and include the combination of 17 individual PAH compounds. The conclusion of the BERA was that total PAHs were ecologically significant at the Site (see BERA Table 11-5).	There is a notable decrease in SWACs from the RI to the PDI, which increases the RALs needed to achieve the same target SWAC. The ROD had limited data coverage for DDx and dioxins/furans, and the RALs were not based on representative Site-wide data and SWACs. ROD RALs were generated from smaller areas with limited data coverage, then extrapolated for Site-wide application.	The RALs for the focused COCs presented in Appendix I of the PDI Evaluation Report completely omit the RI/FS data, which is inconsistent with Section 14.2 of the ROD, and are therefore invalid. RAL curves were developed for the PDI/BL data only and for the PDI/BL data combined with the RI/FS data. The updated RAL curves show that the RAL concentrations for the focused COCs selected in the ROD are still appropriate. The RAL curves for total PAHs, DDx, and 2,3,4,7,8-PeCDF indicate little change while those for 2,3,7,8-TCDD and 1,2,3,7,8-PeCDD show an increase in the area requiring active remediation.	Yes, in sections titled Remedial Action Areas and Horizontal and Vertical Delineation of SMAs During Remedial Design
CULs	Yes, final FS dispute and RI background dispute Final FS Dispute RI Background Dispute	LWG Dispute Issue 1g, LSS Dispute 11, and UPRR Dispute Issues 2, 4: 6/22/2016 LWG RI Background Dispute: 8/26/2014 Final FS Dispute Resolution: 12/27/2016 LWG RI Background Dispute Resolution: 3/24/2015	EPA’s proposed background values based on inappropriately derived upstream bedded sediment statistics are unlikely to represent achievable cleanup levels for the site. The cleanup goal for PCBs of 9 ppb based on EPA’s calculation of background concentrations is not achievable. Background should not be used to establish cleanup goals when likely ongoing contaminant inputs from upland sources within the Site and upriver of the Site exceed EPA’s calculation of background. A better approach was provided by the LWG using equilibrium values. At many other sediment sites around the country, EPA’s cleanup level for total PCBs is 1 part per million. Sediment containing PCBs at 200 ppb is one-fifth of what is considered an acceptable cleanup level at these other sites. The FS’s designation of "highly toxic" material at Portland Harbor is without basis, contrary to policy and practice elsewhere, and clearly not reasonable.	Background values were derived using data specific to the Portland Harbor site and overall watershed. Use of site-specific information is consistent with EPA background guidance, and because site-specific data are available, comparisons to other urban watersheds, which may or may not be similar to Portland Harbor, are not relevant.	PDI data show that concentrations in the D/U Reach continue to exceed ROD sediment CULs and fish tissue targets for a number of the focused COCs, including total PCBs, DDx, and dioxins and furans. The PDI data demonstrate that the ROD CULs and risk-based tissue targets for those focused COCs cannot be realistically achieved and sustained. ROD cleanup levels do not reflect naturally occurring concentrations of arsenic and manganese in porewater. In collaboration with EPA, the goal of the PDI study was to establish background concentrations of arsenic and manganese in porewater. The ROD CULs for these metals in groundwater are not achievable and need to be removed or, at a minimum, updated.	The report draws inaccurate conclusions about the potential for achieving established CULs by conflating the Downtown Reach and Upriver Reach. Furthermore, the results of the PDI/BL surface sediment data and sediment trap data in and near the Upriver Reach are predominately below CULs and do not suggest limitations for achieving CULs at the Site. Additional study is warranted before background groundwater CULs for arsenic and manganese are established to replace the ARAR and risk-based CULs.	Yes, in sections titled Remedial Action Areas

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SWACs	Yes, final FS dispute Document	LWG Dispute Issue 1c and 1d: 6/22/2016 Resolution: 12/27/2016	<p>The LWG questions EPA’s decision to evaluate remedy performance based on recalculated SWACs; which, they believe have not been justified.</p> <p>The LWG disagrees with EPA’s inclusion of sediment data from 1997-2011 in generating SWAC values. LWG states that this assumes a higher pre-remediation SWAC value that is inconsistent with the risk assessments and based on outdated data, which would result in more aggressive clean up alternatives. LWG asserts that portrayal could lead to a remedy that requires more active remediation than is required to achieve cleanup goals.</p>	<p>EPA did not recalculate the SWAC evaluation, but rather supplemented it with additional analysis.</p> <p>The data collected for the Site was the same data used in the baseline risk assessment and therefore is appropriate to use to determine the expected risk reduction from implementation of each of the alternatives developed in the 2016 FS. Furthermore, the EPA 2016 FS uses the same “aggregated data” that the LWG used in their 2012 draft FS, except that data from the NW Natural and LSS early actions were also included. Consequently, if aggregating the data was significantly inaccurate or fatally flawed, so was the LWG’s 2012 FS, which they claim incorporated “good science” and “provides an adequate basis for selecting a remedy.”</p>	Surface sediment concentrations and SWACs have improved. COC concentrations in surface sediments have decreased throughout the Site. This is most clearly illustrated by the statistically significant reductions in SWACs of total PCBs since 2004 at multiple spatial scales.	<p>Temporal change calculations are estimates; direct comparisons of concentration change over time between proximal samples cannot be considered a quantitative line of evidence.</p> <p>Interpolation methods do not allow for robust statistical comparison between the RI/FS and PDI/BL SWACs. Going forward, statistically robust, quantitative rates of temporal change can be developed from the PDI/BL stratified random sampling surface sediment samples and the future long-term monitoring samples that replicate this unbiased study design.</p>	No
SMAs	Yes, final FS dispute Document	LWG Dispute Issue 1d, Arkema Dispute Issue 3, LSS Dispute Issue 6, LSS Dispute Issue 17: 6/22/2016 Resolution: 12/27/2016	<p>LWG states that the RALs selected substantially constrain the design alternatives from providing any meaningful differences in SMA determinations.</p> <p>The draft final FS does consider and propose reactive capping but LWG considers the screening analysis to be flawed and simplistic which limits its use through designating certain SMAs as PTW NAPL/NRC, reflecting those areas where purported NAPL is deemed not reliably contained. For instance, for shallow areas it states that NAPL or PTW that is not reliably contained within an SMA would be dredged to the lesser of the RAL concentrations or 15 feet.</p>	<p>The 2016 FS only applies RALs where those concentrations are exceeded in sediment based on the RI data. RALs are applied in combination to develop SMAs that cover all COCs in sediment greater than PRGs.</p> <p>EPA did not establish any boundaries of waste in the 2016 FS. EPA developed estimates of various types of waste to estimate costs in the 2016 FS. Boundaries and cap designs will be established in remedial design. EPA agrees that additional data collection will be required to determine the appropriate design and waste treatment and disposition requirements during remedial design.</p>	One of the key objectives of the PDI was to assist in updating Site SMA boundaries. This footprint is smaller than the ROD SMA footprint. The Refined SMA footprint incorporates RAL exceedances for total PCBs, total PAHs, and DDx. The Refined SMA footprint highlights the magnitude and extent of Site recovery that has occurred since the RI/FS data were collected.	<p>The refined SMAs are inconsistent with the ROD as they apply RALs other than those in the ROD, do not consider PTW, only include surface sediment data, replace older data using invalid assumptions, and rely on FS-level evaluations inadequate for remedial design.</p> <p>Refining SMA footprints can only occur during remedial design using all existing data, including new data collected during remedial design.</p>	Yes, in sections titled Horizontal and Vertical Delineation of SMAs During Remedial Design

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Principal threat waste (PTW)	Yes, final FS dispute Document	LWG Dispute Issue 2c: 6/22/2016 Resolution: 12/27/2016	The LWG believes that EPA’s PTW approach is inconsistent with guidance and fails to result in reduction in toxicity, mobility or volume of hazardous substances commensurate with its extraordinary projected cost. EPA has designated as PTW large geographic areas with relatively low concentrations of COCs based primarily on its evaluation of the human health fish consumption criteria, which is an exposure pathway not based on highly toxic criteria and not typically used for PTW “highly toxic” designations. EPA’s identification of any potential NAPL as PTW is inappropriate and inconsistent with the guidance.	Principal threat wastes are either highly toxic OR they are highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. Identification of PTW and source material is not based on a site-wide average since EPA is not designating the entire Site as containing PTW. Consistent with EPA guidance, PTW is high concentration areas of contamination. The issue of cost effectiveness is tied directly to the CERCLA statutory requirement under Section 121(b) (1) that: "The President shall select a remedial action that is protective of human health and the environment, that is cost effective, and that utilizes permanent solutions and alternative treatment ... to the maximum extent practicable." EPA did not select a remedy in the 2016 FS and therefore this statutory requirement is not applicable to the 2016 FS and is not subject to the dispute provisions in the AOC.	PDI analyses demonstrate a substantial decline in the estimates of Site risks, such that subsistence fisher pathway risks fall below the 1×10^{-3} threshold. Therefore, concentration-driven PTW designations should be eliminated. Additionally, the ROD requirement that a reactive cap is necessary to reliably contain all areas of remaining “highly toxic” PTW exceedance is overly conservative and likely unnecessary, as demonstrated by the updated PDI cap modeling. Highly mobile PTW designations, mostly associated with NAPL, will be further evaluated during remedial design.	Issues with the PDI risk update invalidate the claim that media concentrations are now below levels which trigger toxicity-based PTW designations. EPA expects that areas of PTW that are highly mobile and not reliably contained will be fully delineated during remedial design.	Yes, in sections titled Decision Tree Technology Selection and Flexibility, Remedial Action Areas, and Horizontal and Vertical Delineation of SMAs During Remedial Design
Background concentrations and derivation	Yes, final FS dispute and RI background dispute Final FS Dispute RI Background Dispute	LWG Dispute Issue 1g, LSS Dispute 11: 6/22/2016 LWG RI Background Dispute: 8/26/2014 Resolution: 12/27/2016 LWG RI Background Dispute Resolution: 3/24/2015	LWG (and LSS separately) contends that EPA did not accurately represent transport of contaminants from upstream sources, and that EPA removed data that best represent the background sediment contamination concentrations upstream of the Site that are most likely to be transported and deposited into the Site. EPA’s proposed background values are still based on inappropriately derived upstream bedded sediment statistics that are unlikely to represent achievable cleanup levels for the site as they do not account for anthropogenic influences, which are known in the scientific literature to exist throughout the Willamette basin. The FS also does not present background concentrations for surface water and does not present sediment background concentrations for all chemicals with sediment Preliminary Remediation Goals (PRGs).	On March 24, 2015, EPA's Director of the Environmental Cleanup Office made a final decision on the methodology and statistical approach for calculating background and directed the LWG to calculate background for 23 contaminants using the methodology. We understand the LWG may continue to disagree with the methodology, but that issue is no longer subject to dispute under the RI/FS AOC. The RI Background Dispute document provides detailed responses to the many and nuanced arguments around this topic.	The estimates of background concentrations for the focused COCs and arsenic in the ROD warrant upward refinement. The PDI data show that upstream sediment concentrations of total PCBs, dioxins/furans, and arsenic are higher than CULs set in the ROD. The PDI data provide broad spatial coverage throughout relevant upstream areas; these data were used to calculate the statistically robust, updated background concentrations presented in this report. These updated concentrations should be considered by EPA in setting achievable cleanup goals.	The 2018 Upriver Reach surface sediment data do not support the claim that the background-based ROD sediment CULs for total PCBs and dioxin/furans are too low. As the ROD background-based CULs are derived from a statistical evaluation with 95% confidence, minor exceedances of CULs in surface sediment and sediment traps for some COCs in a small percentage of samples do not suggest that the ROD CULs are unattainable. Further discussion on the development of background, why the LWG’s “equilibrium” theory is not credible, and EPA’s decision on these items is included in the March 24, 2015 EPA dispute decision.	No

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Adequacy of dioxin/furan dataset	Yes, final FS dispute Document	LWG Dispute Issue 1k: 6/22/2016 Resolution: 12/27/2016	There continues to be an issue with EPA’s modeled dioxin/furan tissue concentrations. In the BHHRA, the site-wide risk from the total TEQ based on the 95% UCL or maximum concentration for actual tissue data was 2 x 10-4. For Alternative A, the site-wide risk from 1,2,3,4,7,8-HxCDF alone based on an average concentration is 6 x 10-4. There is no way that the risk from an individual congener can be higher than the total TEQ, and EPA’s methodology therefore drastically overestimates the risk in a way that cannot be supported scientifically.	The calculated 95 percent UCL on the mean of the 27 individual 1,2,3,4,7,8-HxCDF SWACs shown in Appendix I of the 2016 FS is 0.26 µg/kg. Using the food web model the LWG calibrated for this COC, the estimated average tissue concentration is 0.046 µg/kg, which equates to a 6 x 10-4 risk, as shown in Table J2.3-1a of the 2016 FS. The discrepancy noted is likely due to limitations associated with extrapolating limited dioxin/furan sediment data site-wide, particularly when combined with the limited tissue data set.	For dioxins and furans, the RI/FS dataset was inadequate to develop a comprehensive CSM and support decision-making in the ROD due to 1) insufficient/lower resolution spatial coverage of the Site, 2) poor representativeness of the background inputs and sources, and 3) significant uncertainty in the chemistry data.	<p>The uncertainties with J-flagged values in the PDI/BL data are incorrect. D/F data were validated according to EPA National Functional Guidelines, which allows for the use of professional judgment when qualifying results that do not meet the ion abundance ration criteria.</p> <p>In the discussion about estimated maximum possible concentrations (EMPCs) in Section 2.1.3, the EPA Region 10 guidance is referenced as indicating lab-reported EMPC results less than the QL should be qualified. The PDI/BL data were validated by the Pre-RD Group, and the data validators for the dioxin/furan data reference EPA <i>National Functional Guidelines for High Resolution Superfund Methods Data Review</i>. The National Functional Guidelines were modified to accommodate the non-Contract Laboratory Program methodologies. In the absence of method-specific information, laboratory QC limits, project-specific requirements, and/or professional judgment were used as appropriate.</p>	No

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MNR	Yes, final FS dispute Document	LWG Dispute Issue 2b: 6/22/2016 Resolution: 12/27/2016	<p>Long-term effectiveness evaluations are qualitative and not grounded in scientific method. EPA has added a new approach of evaluating alternatives using “interim targets,” which are basically ten times above the PRGs, and then EPA compares post-construction risks to these interim targets for evaluating the “overall protection of human health and the environment” for each alternative. It is confusing for EPA to claim they cannot quantitatively estimate MNR and then decide that MNR will work in 30 years.</p> <p>The Monitored Natural Recovery (MNR) evaluation is insufficient to support the alternatives evaluation. The FS continues to omit key components of an MNR evaluation as required by guidance including: 1) an adequate CSM; 2) appropriate evaluation of multiple lines of empirical evidence; and 3) a quantitative evaluation of natural recovery and the associated long-term outcomes of the alternatives.</p>	<p>Long-term effectiveness evaluation is quantitative and grounded in scientific method. EPA also provided the magnitude of the post-construction risk to show how much risk was addressed through construction and how much would be addressed through MNR. EPA did not use interim targets in evaluating long-term effectiveness; interim targets were only used for the discussion of overall protectiveness.</p> <p>EPA guidance Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (USEPA 2005) Section 4.4 discusses the evaluation of MNR. The key components of an MNR evaluation that the LWG claims is required by guidance is not found in this guidance document. 1) The assertion that there is an inadequate CSM is both subjective and confusing. The RI, over the course of thousands of pages develops and presents the CSM. The feasibility study conducts additional analyses of the RI and other data in the context of remedial alternative development and evaluation; 2) Appropriate evaluation of multiple lines of empirical evidence. A full evaluation of multiple lines of empirical evidence for natural recovery is provided in Appendix D.8 of the 2016 FS.; 3) Quantitative evaluations of empirical data (trends in sediment deposition and fish tissue concentrations), where available, were undertaken.</p>	System recovery is occurring broadly and rapidly. The findings demonstrate that river conditions are improving more broadly and more rapidly than previously recognized or projected by the RI/FS or contemplated in the ROD.	<p>Systemwide recovery was evaluated quantitatively in the FS and is discussed in detail in FS Appendix D Section D8. The assertion that the RI/FS and ROD did not consider the rate at which natural recovery would occur does not account for the discussion in FS Appendix D.</p> <p>Statistically robust and quantitatively driven analysis of recovery will be developed from PDI/BL SRS and future LTM data. It is premature to claim that natural recovery rates exceed anticipations.</p>	Yes, in section titled Remedial Action Areas
Technology application decision tree	Yes, final FS dispute Document	LWG Dispute Issue 3: 6/22/2016 Resolution: 12/27/2016	EPA should clearly identify in its alternative’s development and decision trees that sediment management areas and technology assignments and process options will be refined and adjusted through remedial design and implementation. The EPA June 2016 FS fails to articulate a clear and understandable framework and schedule for implementation by which each alternative can be compared.	All the alternatives assume the remedy will be implemented as described in the FS (sequence of dredging is assumed to be from RM 11.8 to RM 1.9). That is, there would be no changes identified during remedial design. Due to the uncertainty inherent at Superfund sites, there will be adjustments made throughout the design and construction process.	The ROD Technology Application Decision Tree must be updated, as the data collected and analyses conducted during the PDI support additional flexibility in the remedial decision-making and design process.	The Selected Remedy outlined in the ROD anticipates consideration of updated information during remedial design and allows for flexibility when determining appropriate remedial technologies through use of the ROD decision tree and site-specific conditions. EPA does not consider the findings of the PDI to support a reopening of the ROD.	Yes, the technology application decision tree is discussed in the “Decision Tree Technology Selection and Flexibility” and “Remedial Design Issues” sections.

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Mechanistic food web model (FWM)	Yes, final FS dispute Document	LWG Dispute Issue 1k: 6/22/2016 Resolution: 12/27/2016	<p>The LWG believes that EPA’s chief assumptions for the FWM related to steady-state conditions (in a flowing water body), the completeness of the site characterization dataset, regional contributions of COCs, and the apparent relationship between sediment and fish concentrations cannot be collectively synthesized in terms of their overall coherence and veracity. Based on an examination of the empirical data for the Site, no statistical relationship is observed between sediment and fish tissue concentrations for DDx and PCDD/Fs at the concentrations relevant to risk decision making.</p> <p>The FWM used to calculate sediment PRGs from tissue PRGs was calibrated using PCB data. However, the model provided unachievable results for PCBs (zero listed in EPA FS Table 2.2-5 table). Predicting sediment PRGs using this model has even greater uncertainty for other compounds.</p>	<p>The LWG’s dispute position appears to contradict their own voluminous record submitted to EPA supporting the use of a food web model for PRG development. The primary goal of food web modeling for the remedial investigation/feasibility study is to develop a predictive relationship between chemical concentrations in sediment, water, and tissue that can be used to derive preliminary sediment cleanup goals for chemicals that are present in fish tissue at concentrations associated with unacceptable risk.</p> <p>Additionally, the model has been shown to perform well across a variety of chemical types (pesticides, PCBs, and dioxins), species (fish and invertebrates), KOWs, and spatial scales (Study Area-wide and smaller).</p>	PDI data analysis also shows that the FWM that was relied on to set ROD CULs does not accurately predict fish tissue concentration trends over time. The inability of the FWM to reliably and accurately predict or relate sediment and fish tissue concentrations should preclude its use in setting Site sediment CULs.	EPA disagrees with the assertion that the FWM developed by the LWG during the RI/FS and approved by EPA for use in calculating sediment risk-based preliminary remediation goals cannot accurately predict or relate sediment and fish tissue concentrations. The technical flaws described in Section 3.2.3 are incorrect or otherwise do not represent a fatal flaw in the FWM and inadequately characterize the support information proved in the FS.	No

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Fish consumption rate	Yes, Baseline Human Health Risk Assessment dispute Document	Dispute Baseline Human Health Risk Assessment Issue B1A: 9/17/12 Resolution: 12/6/12	EPA's direction on what constitutes a reasonable maximum exposure is inconsistent with guidance, inconsistent with national policy, and arbitrary and capricious.	<p>The 17.5 g/day rate, considered in the guidance as an average rate for sport fishers, represents a good fit for the central tendency (CT) scenario. However, particularly because the 17.5 g/day rate comes from a survey of both consumers and non-consumers, this rate doesn't fit logically in the design of an RME. EPA has relied upon the Columbia Slough creel survey in proposing a 73 g/day consumption rate, using the assumption of 75 percent of the body weight of the fish. Because the survey results support the notion that some fishers near Portland Harbor sometimes consume more than just the fillet (estimated at 30 percent of the body weight), using a consumption value higher than that for fillet alone seems reasonable as part of an RME to account for this variation in the portion of the fish consumed. As EPA acknowledges in its "Response," information from numerous other fish surveys suggest sport fishers primarily consume fillets. Taking this collection of inputs into account, I turn to the Columbia Slough survey results' presentation of rates for consumption at a midpoint, where 50 percent body weight consumption is assumed. From this information I direct the use of a consumption rate of 48.9 g/day, which equates to approximately 6.5 meals per month.</p> <p>First, the Recreational Fisher RME scenario summarized above shall suffice as a mid-point scenario, so no additional Subsistence Fisher CT scenario will need to be developed or used. As to the Subsistence Fisher RME scenario, in addition to the agreed factors identified above, the parties agreed during the informal dispute on all of the key factors except tissue type.</p>	The fish consumption rates used in the 2013 BHHRA were not based on Site-specific data or derived using the most current methods for calculating long-term fish consumption rates for use in risk assessment (EPA 2014b). The 2013 BHHRA relied on default and/or regional values that are not representative of long-term consumption rates. Since the time of the surveys used as the basis of the fish consumption rates in the 2013 BHHRA, more recent survey methods and data analyses that reflect consumption over a lifetime (often referred to as “Usual Fish Consumption Rates”) have been published and used by EPA, states, and scientists. The alternative rates used for the PDI Scenarios in this update were derived using more up-to-date methods for data analysis, referred to as the National Cancer Institute method (EPA 2014b, Buckman et al. 2015, Polissar et al. 2016a, 2016b).	The PDI risk update relies on a study of fish consumption in Idaho (Buckman et al. 2015) for the recreational fish consumption rate without justifying its applicability to the site. As noted in EPA 2014a, patterns of fish consumption vary by geography, such as residents who live on or near the coast and those who live inland. Since residents in Oregon are near the coast, the fish consumption rates of recreational anglers in Oregon are likely to be higher than fish consumption rates of recreational anglers in Idaho, who live inland. For the subsistence fisher consumption rates, the PDI risk update uses the freshwater and estuarine finfish and shellfish usual fish consumption rate for the Pacific (EPA 2014a). While this report provides more current data for national and regional fish consumption rates from the National Health and Nutrition Examination Survey (conducted 2003–2010), the fish consumption rates that were used in the 2013 BHHRA were evaluated by several interested parties, and the approach and exposure values involved a formal dispute process. Arbitrarily revising exposure values used in the risk assessment is not appropriate during this stage of the project. Tribal fish consumption rates and diet composition in the PDI risk update are based on surveys from three tribes (Polisar et al. 2016a, 2016b; SRC 2015), two of which are not regionally appropriate and relevant to the site area.	No

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Resident fish multi-species diet	Yes, Baseline Human Health Risk Assessment Document	Dispute Baseline Human Health Risk Assessment Issue B1: 9/17/12 Resolution: 12/6/12	EPA's direction on what constitutes a reasonable maximum exposure is inconsistent with guidance, inconsistent with national policy, and arbitrary and capricious. Although the Lower Willamette Group takes issue with specific aspects of the fish consumption scenarios, the fundamental contention is that, by its selection of combinations of key exposure factors, EPA defined reasonable maximum exposure (RME) scenarios that cannot be reasonably expected to occur in the context of the Portland Harbor site.	Although some recreational fishers pursue only particular fish, the Columbia Slough survey supports the notion that in the area of Portland Harbor, there are fishers who are not so discriminating. Therefore, a multi-species diet is more appropriate for an RME scenario. This assumption also seems to be better aligned with the mid-range consumption rate selected above, i.e., sustaining the rate is more plausible using multiple species than a single species. Based on the rationale presented by EPA, the smallmouth bass shall be used as the surrogate for the multi-species diet on a river-mile scale. The rationale needs to be clearly presented in the text for the benefit of readers who typically pursue and/or keep certain types of fish.	<p>For the PDI, whole body SMB samples were collected and are used to represent resident fish in the PDI risk update. As the concentrations of COCs in SMB tissue were generally higher than crappie, lower than carp, and similar to bullhead, SMB is a representative surrogate for the mixed diet of resident species.</p> <p>The 2013 BHHRA assumed the tribal diet consists of approximately half resident species and half migratory species (salmon, lamprey, and sturgeon). The same assumption was applied for the RI/FS Scenario in the PDI risk update.</p> <p>The assumption that half the tribal diet comes from the Lower Willamette River is not realistic and was not supported by the 1994 study used to identify the species consumed. This overly conservative assumption was noted in the 2013 BHHRA, and more recent tribal studies indicate the majority of fish consumed are salmon (e.g., Polissar et al. 2016a, 2016b). Based on an analysis of the more recent studies, the PDI Scenario assumed 24.2% of the tribal diet consists of resident species and 75.8% is migratory species (see Exhibit A).</p>	<p>The ROD fish tissue target levels were developed from risk estimates in the BHHRA that accounted for a multi-species diet of resident fish (SMB, brown bullhead, black crappie, and common carp) while the PDI/BL fish tissue study only sampled SMB. Any conclusions regarding the future attainment of the ROD fish tissue target levels needs to include data from multiple species collected during long-term monitoring after the completion of the selected remedy.</p> <p>Additionally, the Polisar study (2016a) indicates that the level of consumption reflected in the survey may indicate suppression effects, and thus, the study does not reflect baseline (heritage) consumption rates. Reducing the consumption of resident species to 24.2% from 50% for the tribal diet likely resulted in underestimated risks for this receptor in the PDI risk update.</p>	No